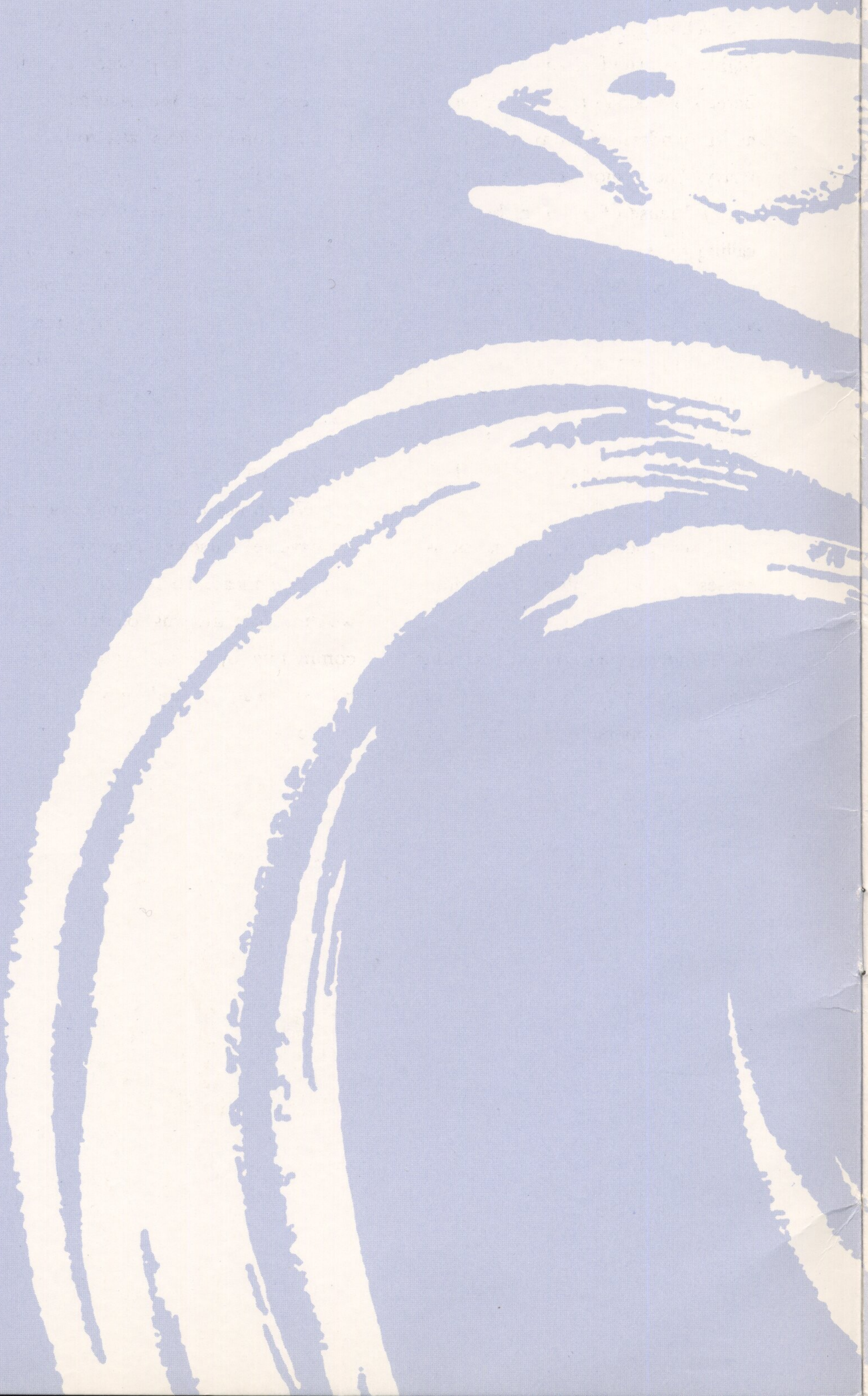
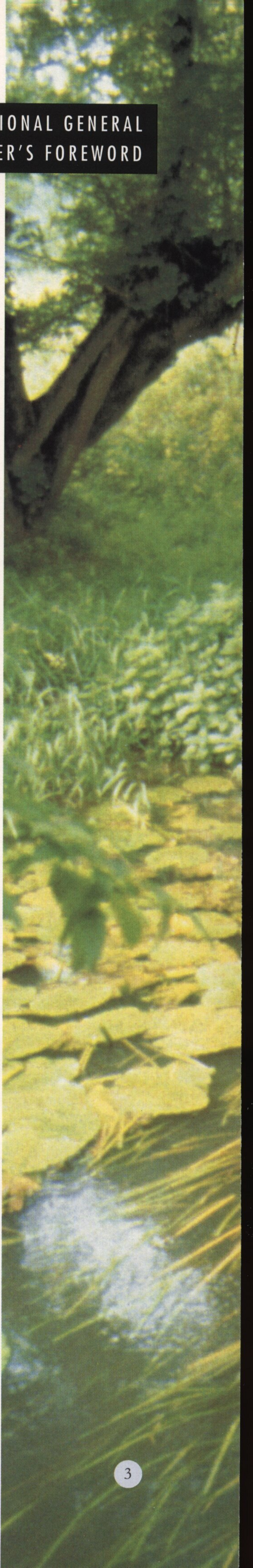
GUARDIANS OF THE WATER ENVIRONMENT

NRA

National Rivers Authority
Thames Region



REGIONAL GENERAL MANAGER'S FOREWORD



We live in an age of growing concern for the environment, a time of conservation and recognition of the vital role rivers play in our daily lives. But the pressures of modern living often threaten the natural resources on which we all depend. We in the Thames Region are proud to be "Guardians of the water environment" and intend to carry this responsibility seriously.

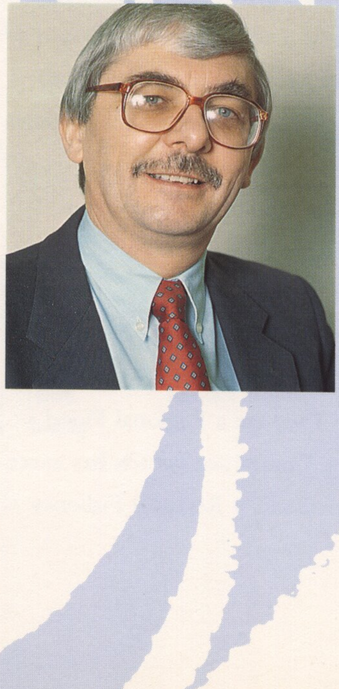
A healthy river system is vital for the wellbeing of us all. Here in the highly populated Thames Region, the demands placed on our river systems and groundwaters are particularly heavy. The Region sees the greatest use and reuse of water in the country, calling for strict control of water abstraction and effluent quality. The area continues to develop, bringing increasing demands on water resources. Some of our rivers are already suffering from too much water abstraction and we are setting about their restoration.

Thousands of homes and businesses rely on our flood alleviation schemes to reduce the risk of flooding. Others depend on early warning from us when floods are on the way. Many Londoners are protected from tidal flooding by the Thames Barrier.

Millions of people in Britain and abroad come to our rivers to enjoy their free time in lively activity, or relax in the peace and quiet they can provide. Last, but no means least, our rivers are home to a wide variety, and we hope through our efforts, an ever increasing number of plants and wildlife. In all our activities we aim to conserve, restore and recreate natural habitats.

It takes a strong, professional, independent body to protect this complex environment. We have the resources and the expertise to be a tough regulator and are committed to carrying out our range of responsibilities in an efficient, effective and economic manner. We will strike a balance between the varied and often competing interests that use our rivers while at the same time providing the strongest protection for the natural environment.

We do not underestimate the task we have set ourselves. Many challenges lie ahead. To succeed we know we must gain the trust of the whole community; by keeping you informed, by consulting you and by working not just for you, but with you.



Leslie D. Jones

The National Rivers Authority

The National Rivers Authority is a major environmental protection agency responsible for safeguarding and improving the natural water environment. Established by the 1989 Water Act, it is an independent public body serving England and Wales with a policy making Board of 15 members, appointed by Government. The Board is supported by a small central staff headed by a chief executive.

NATIONAL RIVERS AUTHORITY BOARD
Chairman: Lord Crickhowell
Chief Executive: Ed Gallagher

REGIONAL ADVISORY BOARD
Chairman John Norris, Regional Board Member

Michael Davies Chairman Flood Defence Committee	Joan Wykes Chairman Rivers Advisory Committee	Hugh Parry Chairman Fisheries Advisory Committee

Regional General Manager: Les Jones
Public Relations
Personnel

REGIONAL MANAGEMENT TEAM

Stuart Darby Flood Defence	Ian Adams Environmental Quality	Giles Phillips Catchment Control	Adrian Birtles Fisheries Recreation & Conservation	John Dickinson Technical Services	Geoff King Finance & General Services
Flood Defence	Pollution Control	Water Resources Planning	Fisheries	Capital Projects	Finance
In-house Workforce	Groundwater Protection	Abstraction Licensing	Recreation	Planning Liaison	Legal
	Laboratory	Water Quality Planning	Conservation	Information Systems	Transport
		Discharge Consents	Navigation	Research & Development	Administration
		River Control			
		Hydrology			
		Emergency Planning			

The NRA, Thames Region

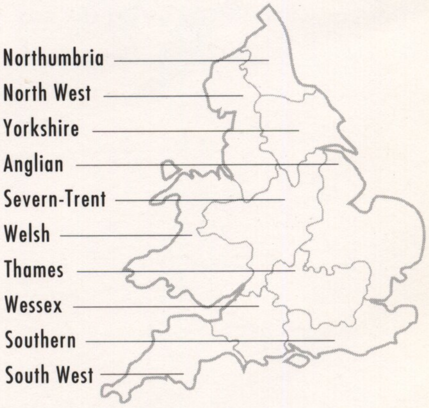
The NRA Thames Region is one of ten regional executives which comprise the national organisation. Our aim is to safeguard the total river environment, not just the many rivers, streams and lakes in the area but also the quantity and quality of underground water.

Regulating the rivers and groundwaters in the Region is only part of our work. We are also responsible for flood defence, for protecting and improving fish stocks and for promoting water based recreation of all types. In carrying out these responsibilities we are committed to improving wildlife habitats and conserving the natural environment. None of these activities can be carried out in isolation and we reflect this in our integrated approach to river managegment and the flexibility of our workforce.

The Thames Region with its resident population of over 11 million, covers about 5,000 square miles from Cirencester in the west to Dartford in the east and from Luton in the north to the Surrey Downs in the south. It is an area of great diversity, ranging from rural Oxfordshire and Wiltshire through the high-tech industry of the Thames Valley to the urban spread of London.

Carrying out our activities over so wide and varied an area provides a constant challenge to our 1,300 employees, based at various site offices throughout the Region and at Headquarters in Reading. Our communications centre is staffed twenty-four hours a day, relaying messages to the workforce out in the field both during normal operations and at times of emergency.

Three committees with their membership drawn from a wide range of local and national bodies assist with our activities and provide direct channels of communication for interested parties. They are a Regional Flood Defence Committee (which has executive functions), a Regional Fisheries



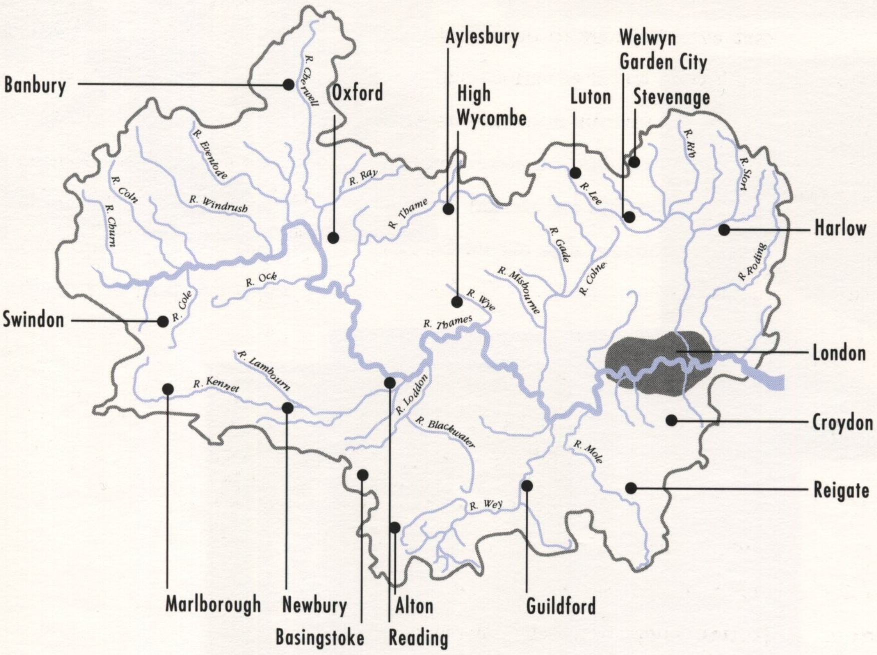
Advisory Committee and a Regional Rivers Advisory Committee to cover the remaining functions. Meetings are open to the public. The committee chairmen, the regional board member and the regional general manager form the Regional Management Board which advises across the whole range of the Region's responsibilities.

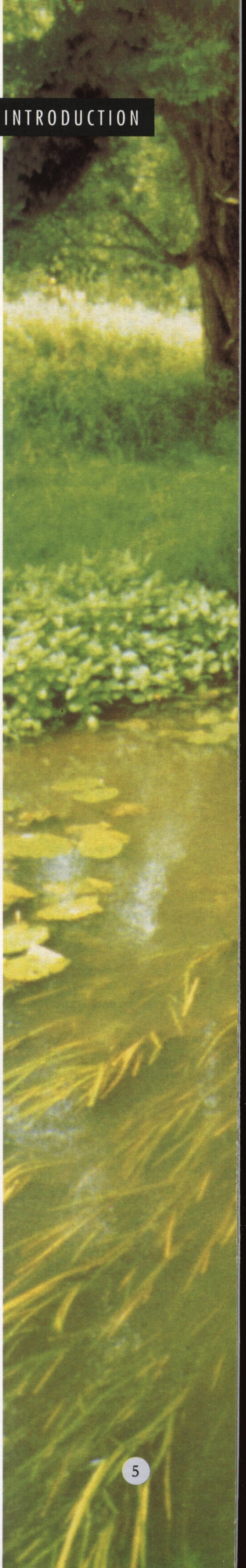
Our activities are financed from a combination of local government levies, direct charges and Government grant aid. Our policy is to recoup the maximum possible proportion of our costs directly from those who benefit. We intend investing over £30 million on capital projects every year with operating expenditure in the region of £50 million.

We are committed to running our activities effectively and competitively and are continually seeking ways of improving efficiency. We aim to carry out our regulatory role responsibly and fairly and consideration for individual customers and the community at large are guiding principles for all our working practices.

The following pages outline the various responsibilities of the NRA, Thames Region, in more detail:–

THAMES REGION FACTS	
POPULATION	OVER 11.5 MILLION
AREA	1,290,000 HECTARES
TOTAL FLOODPLAIN	69,500 HECTARES
LENGTH OF MAIN RIVER	5,294 KM
PLANNING APPLICATIONS CONSIDERED	OVER 6,000
CONSENTED DISCHARGES	13,600
POLLUTION INCIDENTS INVESTIGATED	3,573
ABSTRACTION/IMPOUNDMENT LICENCES	3,175
LENGTH OF CLASSIFIED FISHERY	1,546 KM
ROD LICENCES SOLD	220,000
SITES OF SCIENTIFIC INTEREST	OVER 450
LENGTH OF NAVIGABLE RIVER THAMES	217 KM
LICENCED CRAFT ON RIVER THAMES	34,000


Banbury
Oxford
Aylesbury
High Wycombe
Luton
Welwyn Garden City
Stevenage
Harlow
Swindon
London
Croydon
Reigate
Marlborough
Newbury
Basingstoke
Alton
Reading
Guildford
R. Cherwell
R. Evenlode
R. Coln
R. Churn
R. Windrush
R. Ray
R. Thame
R. Ock
R. Cole
R. Lambourn
R. Kennet
R. Loddon
R. Blackwater
R. Wey
R. Mole
R. Thames
R. Wye
R. Misbourne
R. Gade
R. Colne
R. Lee
R. Rib
R. Stort
R. Roding



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Water is a vital resource and the Region is committed to achieving improvements in quality wherever possible.

Protection starts with setting a framework of water quality objectives for rivers and groundwaters. These will vary according to location; a river flowing through heavily urbanised areas cannot easily match the water quality of a river flowing through open, uncultivated countryside.

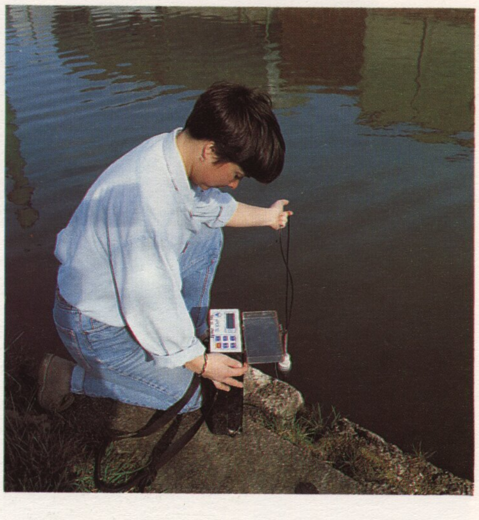
Our staff play a part in setting these objectives with the Government; a task calling for a sound knowledge of the chemical and biological processes involved. Standards are drawn up for each stretch of river and these are taken into account when deciding whether to allow additional discharges. Permission to discharge is issued in the form of a "Consent" which governs both the quality and quantity of the effluent to be discharged.

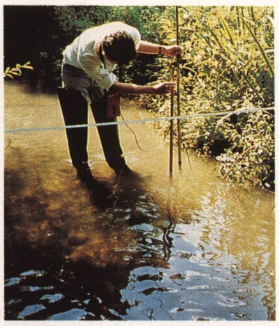
Teams of pollution control staff regularly monitor major watercourses, including rivers, canals and streams as well as effluent discharges. This monitoring is carried out either through site visits or by using automatic monitoring devices which transmit information back daily. Groundwaters too must be safeguarded. Staff advise on waste disposal operations and the disposal of effluents to land. All water samples taken are sent to our own laboratory at Fobney (just outside Reading) for analysis.

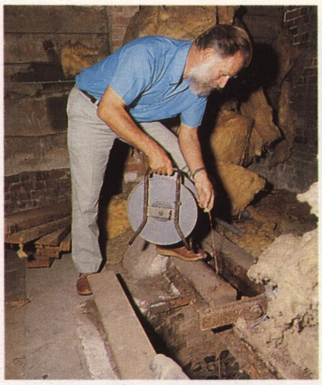
When informed of a possible or actual pollution incident, our aim is to prevent the pollutant from entering a watercourse. If it has already reached the water, our aims are to clear it as quickly as possible, minimise its impact and to warn anyone who might be affected, such as downstream abstractors. Where appropriate, booms of absorbent material are placed in the water to trap any floating pollutants such as oils or petrol. Staff can then oversee their safe removal and disposal. The polluter either organises and pays for the clean-up operation themselves or we recover the costs from them.

Pollution control staff will try to track the polluting substance back to its source. This often calls for painstaking detective work. Samples are taken and other evidence collected to bring prosecution proceedings against those responsible.

A pollution prevented is far better than a pollution cured. Accidents can often be avoided by a few simple precautions. Pollution control staff put great emphasis on pollution prevention and experts are always ready to offer advice on safe practices.







The Region's rivers and groundwaters are used for many purposes. They form the area's drainage system and as such provide a natural and efficient means of diluting and disposing of discharged effluent. Rivers are also a major source of water supply, thousands of people are attracted to them every year for recreation and they are "home" to all kinds of wildlife. River flows depend very much on the levels of water in underground strata which provide important sources of water in themselves. Ensuring that there is enough water to go round calls for a delicate balancing of all these elements on the part of our water resources staff.

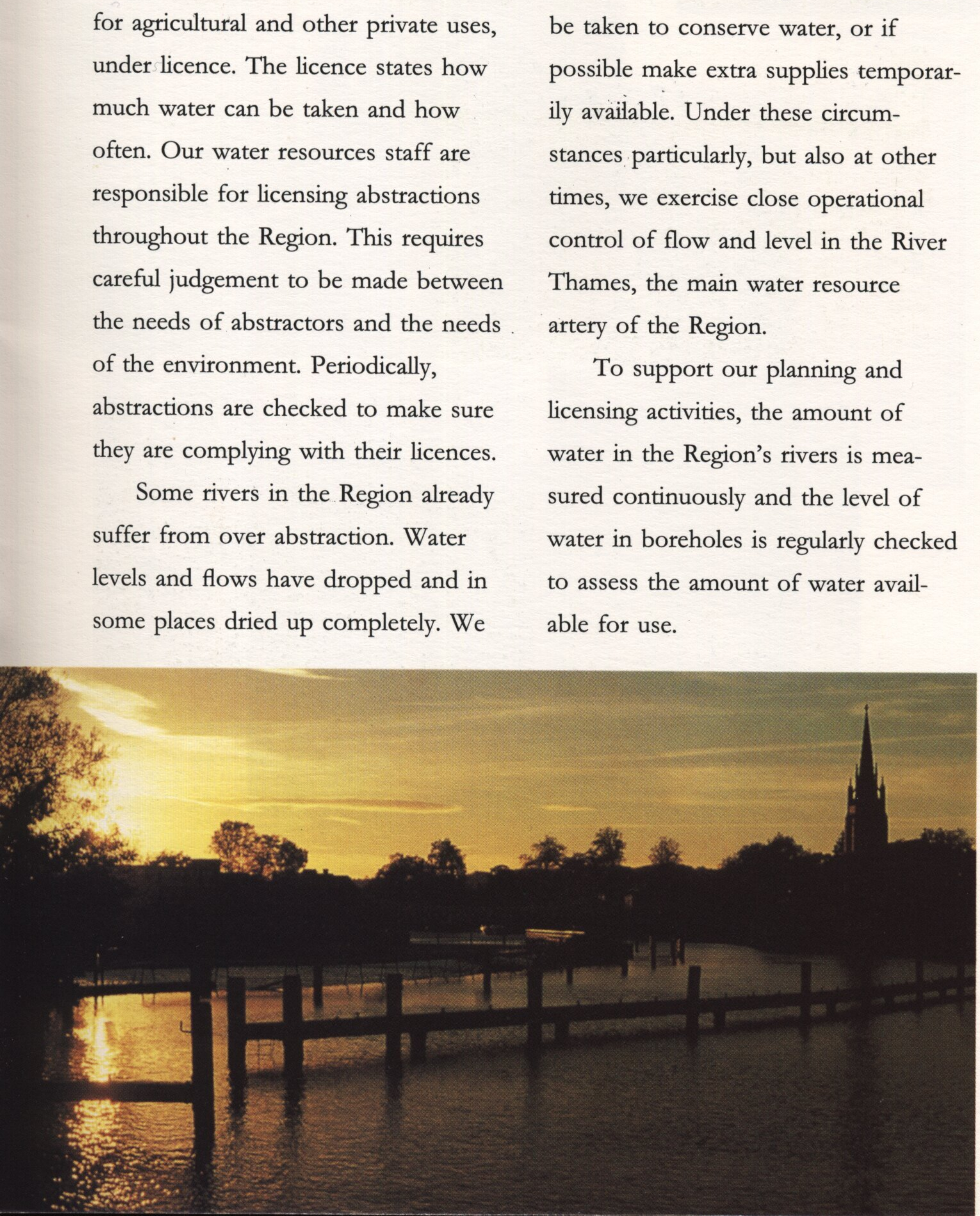
Generally speaking, water can only be abstracted, whether for water supply, for cooling at power stations or for agricultural and other private uses, under licence. The licence states how much water can be taken and how often. Our water resources staff are responsible for licensing abstractions throughout the Region. This requires careful judgement to be made between the needs of abstractors and the needs of the environment. Periodically, abstractions are checked to make sure they are complying with their licences.

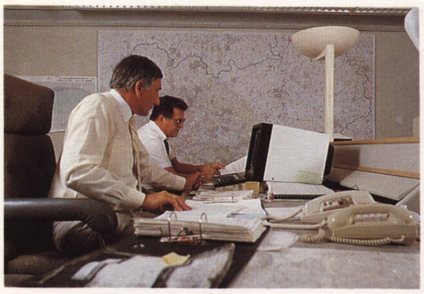
Some rivers in the Region already suffer from over abstraction. Water levels and flows have dropped and in some places dried up completely. We are committed to identifying ways of restoring flows to five such rivers, with schemes already agreed to help the Ver and the Pang.

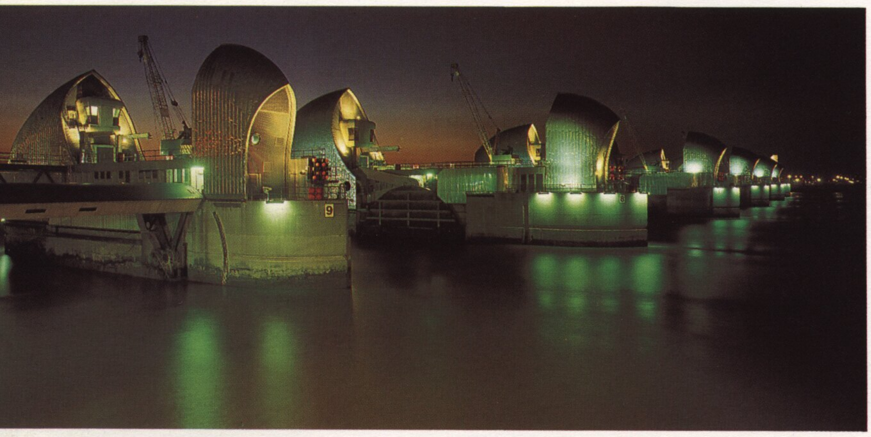
Much of the water available on a reliable basis in the Region is already "spoken for". This means that planning for future demands, particularly for public water supply, is a major challenge. Staff not only need to understand the surface water and groundwater hydrology of the area but must also assess the environmental and economic consequences of various strategic options.

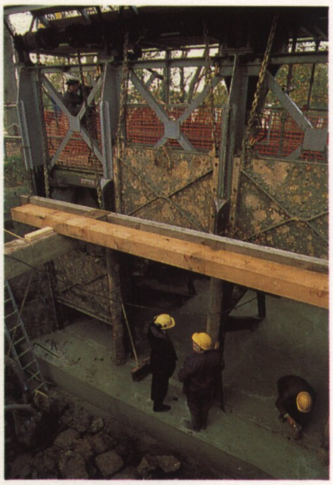
In a drought, when the resource of water is low and dwindling, we have to take a broad view of co-ordinating its management. This requires us to consider the needs and priorities of all uses and the steps that should be taken to conserve water, or if possible make extra supplies temporarily available. Under these circumstances particularly, but also at other times, we exercise close operational control of flow and level in the River Thames, the main water resource artery of the Region.

To support our planning and licensing activities, the amount of water in the Region's rivers is measured continuously and the level of water in boreholes is regularly checked to assess the amount of water available for use.









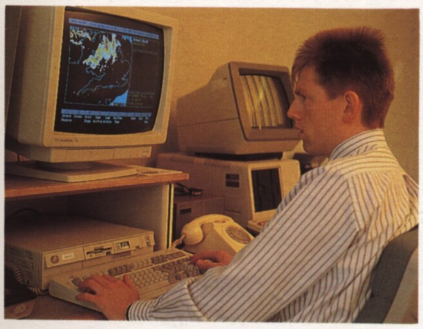
The prospect of flooding either from heavy rainfall or from abnormally high tides in the Thames estuary is a prime concern. Reducing the risk of flooding from rivers on a day to day basis and planning major flood defence projects forms a large part of the Region's work and involves more than half our workforce.

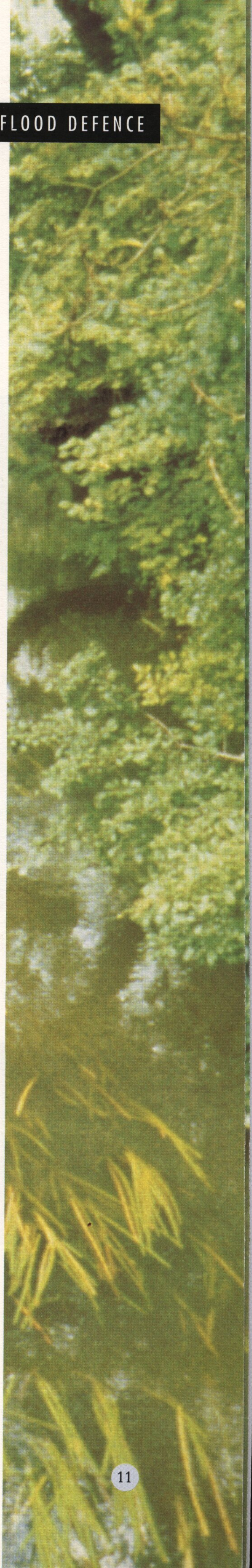
Staff keep a check on proposed land developments and advise local authorities on any flood problems these may create. They also ensure other NRA departments which may have an interest, have the opportunity to comment. Specialists carry out studies to discover the source of existing flooding problems and to identify how best to cope with changing land use within each river catchment. When necessary, our engineers design flood defence measures and oversee their construction.

From our river control rooms we keep a constant check on weather conditions and river levels using the latest technology including rainfall radar and telemetry. This enables staff to provide round the clock flow forecasting. At times of heavy rain and rising river levels, they can give the emergency services early warning of possible floods.

Flood defence teams are based at site offices around the Region to carry out regular river maintenance work. Activities range from dredging, weed-cutting and the removal of blockages to the maintenance and operation of the Thames Barrier and London's other tidal defences.

These teams are mobilised during flood emergencies to keep rivers clear of obstructions so that flood waters can be conveyed away as quickly as possible. They are also on hand to assist in other river based emergencies.





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RUFFE

Fisheries and conservation staff encourage the development of a natural, healthy river system, both above and below the water line. They provide the specialist advice needed to ensure that the Region's activities are carried out in an environmentally sensitive way.

During the design of flood alleviation schemes, engineers consult with our internal experts and outside consultants so that conservation measures can be built in from the start. Fisheries and conservation staff are also involved in planning river maintenance programmes; advising when best to cut weeds, dredge river beds and trim banks and trees. Whenever possible, additional conservation measures are incorporated. These include planting reed beds for wildlife habitat and ensuring any new structures such as bridges and weirs, blend in with the local environment.

A thriving fish population is a sign of a healthy river, hence our commitment to improving the area's fisheries. From bases across the region, fisheries staff carry out surveys to determine the number and condition of fish, restock watercourses and monitor the health of fish moved by angling clubs. Staff are often called on to rescue fish in distress, either as a result of natural causes, such as low oxygen levels in rivers during hot weather, or from pollution incidents. They are also available to offer expert advice on a wide range of fisheries management problems.

Our recreation staff aim to ensure the best possible use of rivers and other inland waters, for all kinds of recreation. Anglers, birdwatchers, boating enthusiasts, canoeists, divers, ramblers and rowers are amongst those attracted to the area and we provide facilities for all these activities.

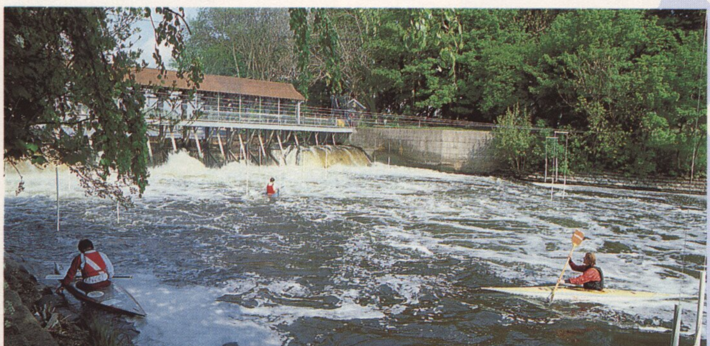
Less vigorous activities such as a stroll by the river, lunching at a nearby beauty spot or a day out at a place of interest are also catered for by the creation of picnic areas and riverside walks and the management of the visitors centre based at the Thames Barrier.

We become involved with a wide range of recreational projects. Some we handle ourselves whilst others receive our specialist advice or financial support.

No-one likes to see a river clogged with debris and litter scattered along its banks. It not only spoils our enjoyment but can cause serious flooding problems if large enough to form a blockage and also endangers wildlife. To drive home the message not to treat rivers as dustbins, recreation staff helped establish the now commercially run Tidy Thames Refuse Services which clears rubbish from the Thames through London and have instigated other litter clearance initiatives.

On the River Thames itself, our navigation staff ensure that people enjoy their recreation safely without spoiling the enjoyment of other river users. Guidance of craft through locks, overseeing river-based events and conducting launch safety inspections are just some of the elements involved in managing the Thames navigation.

But their role goes beyond that of overseeing safe navigation. Thames lock-and-weir keepers also play a role in other areas of river management. Through operation of the weir gates they can retain river levels for water resource purposes or control the passage of water down river in times of high flows.



CONCLUSION

The NRA, Thames Region is determined to improve the water environment for the benefit of all those who depend upon it. Our management systems recognise the integrated nature of our varied activities and responsibilities and the importance of conducting them in an efficient, effective manner. We will ensure that the rivers, lakes and underground waters of the Thames Region are protected and improved for the sake not only of this generation but of those to come.

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